KILLER HARDWARE TIPS

Too Cool To Follow Rules

IF YOU'RE A USER WHO CAN'T LEAVE THINGS ALONE IF THERE'S A CHANCE YOU CAN MAKE THEM BETTER, EVEN IT IF MEANS BUCKING THE NORM, READ ON. WE HAVE SOME TIPS and tricks that just might make you more productive.

Big Screen, Little Screen

Most power users would agree that the more information your PC can display, the better. Most would also agree that a second display, an LCD, would be a perfect addition to their computers. But LCDs are expensive, and your desk may not have the space or ability to withstand the weight of a second monitor.

However, you can surely find a few square inches for an LCD that's small enough to mount in a drive bay or set atop your monitor to provide a supplemental display area where your PC can show vital stats or personal messages.

Such displays typically connect to a PC's serial port, so you don't need a second video card. What can you do with it? Let's be frank: Regardless of how useful it is, installing a display in a spare drive bay can be the quintessential cool hack.

Cool factor aside, hardware enthusiasts can use a serial LCD to view temp and voltage stats of their PC's components. MP3 lovers can view the current tune playing. Network gamers can display game-server stats. Financial mavens can create their own tiny stock ticker.

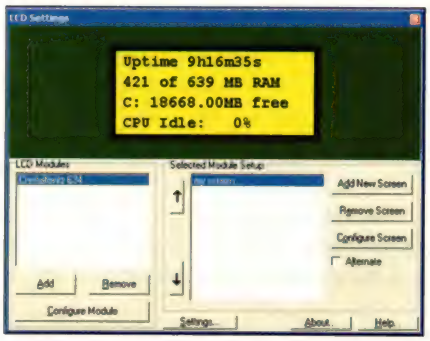
If you already have a huge monitor, displaying a few more characters may seem silly, but "it's got a lot of wow factor," says Brent Crosby, president of display maker Crystalfontz (www.crystalfontz.com). Crystalfontz sells several serial LCD versions, with plenty of customization options. One version fits in a standard CD-ROM-sized bay and has a 16-character x two-line display. There's also a two-bay version with a 20-character x four-line display. The displays are monochrome but are available in various colors.

Matrix Orbital (www.matrixorbital.com) and Scott Edwards Electronics (www.seetron.com) also make LCDs, as well as VFDs (vacuum fluorescent displays). VFDs are brighter than LCDs and are easier to read at a distance, but they draw more power and tend to be more expensive.

A bay-mounted display is so cool that your friends might not make fun of you for having a 33MHz PC. But don't bet on it.

Prices can range from about $35 to $150 for LCDs and from about $95 to $140 for VFDs.

We tried the Crystalfontz 634, an elegant 20-character x four-line backlit display. Connection was easy. We simply mounted the display in a drive bay and connected the display's power and serial connectors. (USB versions should be available as you read this.) The unit's backlight requires +5V. We easily drew power from a hard drive power connector using a supplied adapter cable.



CrystalControl software lets you customize the output of a serial LCD display, even importing information from Winamp, Motherboard Monitor, and other programs.

If your PC lives under your desk rather than up where you can see it, you obviously won't want to install a display in a drive bay. Dave Williams, a systems analyst in Liverpool, England, built a custom mount for his LCD to place atop his monitor. Williams authored an article on the customization that you can read at www.bit-tech.net/article/43.

Once a display is installed just so, next comes the fun part: tweaking the display's output. There's a wide variety of driver programs that can fill your LCD with information instantaneously.

Williams uses a shareware program called LCDC (lcdc.planetdps.com) to drive his display. "This program is very configurable and customizable with the use of plug-ins and can, on displays that support it, set outputs and read keypads," says Williams. (Some LCDs include a small keypad that can serve as an alternate input device.) Williams usually uses the LCD to show

hardware information, such as uptime, temperatures, and network-traffic stats.

Crystalfontz offers free CrystalControl software that can display such system information as drive capacity, processor usage, and the number of email messages in your POP account. The software can also fetch data from other programs. For example, with help from Motherboard Monitor (mbm.livewiredev.com), the software can display system temps, voltages, and stats about network packets transmitted and received. You can also monitor your SETI @home stats and game-server happenings.

Other software to consider includes LCDriver (lcdriver.pointofnoreturn.org), LCDMax (www.lcdmax.de), and LCD Driver Daemon (www.2morrow.com/lcdd) for Windows and LCDproc (lcdproc.omnipotent.net) for Linux. Specialized programs include a Winamp plug-in (www.markuszehnder.ch/projects/lcdplugin) that shows playing MP3 titles and LCDUmeter (www.geocities.com/special_4k4), which shows a network-traffic graph.

Dave Williams' LCD display, which typically displays CPU hardware stats, sits in a mount that he custom made.

LCDriver is freeware but is closed-source. Version 2.0, available soon, will be open-source and include a bevy of new features, says Ryan Myers, the program's creator. "One feature that everyone is clamoring for is parallel support. A lot of companies make displays that use a parallel protocol," says Myers. "They usually sell for dramatically cheaper than serial displays. The problem is parallel is a lot harder to wire up; you have to solder it yourself to the parallel port."

Myers has two serial displays on his PC; a VFD displays such stats as memory usage and CPU temperature, and an LCD shows Winamp and Counter-Strike stats.

Hot Now, Cool After

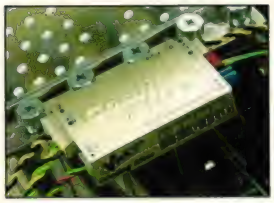
Keeping a PC cool while it's running is a popular pastime for overclockers, who employ fans, water pumps, giant copper heatsinks, and other gadgetry to do so. Unfortunately, when the power goes out, these devices stop, leaving the PC to slowly cool down on its own.

IOSS International (www.ioss.com.tw) aims to help with this. The company's $25 Cooling After product runs the PC's fans as long as 10 minutes after shutdown, providing extra time to dissipate heat.

The fans run at a reduced speed for one, three, five, or 10 minutes, depending on the device's jumper settings. During that time, the PC's power LED blinks to indicate it's in cool-down mode. The company states that "the gradual cool-down protects the electrical components from any damage that a sudden shutdown may cause."

Your PC needs a WOL (Wake on LAN) connector on the motherboard for Cooling After to draw power from to run one or two channels of fans at as many as 12 watts per channel. (The device can power any 12V appliance, such as a water pump.)

In a test described at www.overclockers.com/articles612, Joe Citarella found his AMD chip cooled an additional 4 degrees Celsius with Cooling After than without. The majority of the cooling occurred after three minutes of power-off fan time.

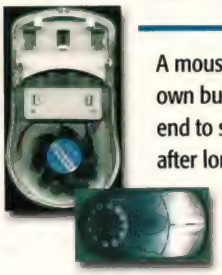


The Cooling After device keeps your PC's fans spinning for several minutes after you power down your PC.

Cool Hand Luke

While we're on the subject of cooling, isn't it time your computer returned the favor? Erlend Thorsen thought so. He inserted a small fan in a standard mouse, drilled ventilation holes, and voila, he had a mouse to keep his hand cool.

+5 volts from a PS/2 port powers the fan, but Thorsen says you can get power from a serial or USB connection, too. He also added two LEDs to the mouse's front. He admits the result, which resembles headlights or mouse eyes, is over the top, but if things get too cool or bright, a switch lets Thorsen turn the fan and lights off. A description of the project is available at www.overclockers.com/tips967.



A mouse modded with its own built-in fan can put an end to sticky, sweaty hands after long hours of fragging your friends.

"Going to a LAN party, there is always 'the new kid.' So it's the welcoming round, handshakes and all. It's with pride and great confidence I can now present a cool and sweat-free hand to welcome new members. . . ." says Thorsen.

For further inspiration to cool off via your mouse, check out this Finnish Web page: http://hw.metku.net/rottaflekti/index_eng.html. CPU

by Kevin Savetz

Infinite Loop

Gender Benders

Ladies, it's fair to say that the guys may be blowing smoke when they say they don't like to shop. According to a recent AT&T Broadband survey, 58% of the male participants expressed an interest in shopping online, compared to 42% of the female participants.

On the flip side, ladies, you can no longer say that playing games isn't something you like to do either. The same survey found that 51% of the female participants expressed an interest in playing online games with someone in another city, compared to 49% of the male participants.